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INVITED COMMENTARY

Commentary on 'Decline of semen quality during IVF is not associated with subjective male stress'

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Amongst the reasons for male infertility the factor 'stress' is frequently cited, however, without providing more detailed explanations. In the article 'Decline of semen quality during IVF is not associated with subjective male stress' published on *Asian Journal of Andrology*, Nouri *et al.*¹ describe a decline in progressive sperm motility in a retrospective cohort of 155 male *in vitro* fertilization (IVF) patients during a time period of 4–6 weeks prior to the first IVF cycle and the time of oocyte retrieval. In a subsequent prospective cohort study on men undergoing their first IVF semen quality and subjective male chronic stress were investigated at the same time intervals. Subjective stress was assessed by the Fertility Problem Inventory questionnaire. In the prospective study, there was also a decline in progressive motility, whereas, sperm density increased. The comparison of sperm density and progressive motility revealed no differences between men with and without stress. However, in couples where the male partner suffered from chronic stress there was a higher rate of poor responders, miscarriages and a lower live birth rate.

The conclusion that subjective stress is not associated with a decline in semen quality observed during IVF is based on assessment of the basic semen parameters which allows only a rough estimation of semen quality. It may well have been the case that functional parameters like DNA integrity have been disturbed by the stress exposure as it was reported by Vellani *et al.*²; moreover, this phenomenon could explain the poor response and miscarriages in the stress group, but, of course, the adverse pregnancy outcome may have different reasons, for example increased feeling of stress on the female side.

On the other hand, the question remaining is why sperm motility declines in IVF patients regardless of the influence of subjective stress. In several reports using other diagnostic tools stress factors have been made responsible for reduced semen quality.² Perhaps the use of the Fertility Problem Inventory questionnaire may have failed to detect more subtle, unconscious aspects of stress.

The involvement of psychological factors in male infertility has been investigated for many years and a negative influence of psychological stress on spermatogenesis has been described.³ The decline in sperm motility—the mainly affected parameter—could be better explained by a disturbance of epididymal function. Epididymal sperm maturation takes about 10 days. Therefore, in the case of IVF patients, acute stress may play a major role rather than chronic stress influence.

The epididymis is known as a stress-sensitive organ—epididymitis sympathica or erotica,⁴ reacting directly on acute events, not least on stress prior to semen collection on the day of oocyte retrieval. A disturbed DNA-integrity can, among others, be referred to epididymal dysfunction as well.

However, both acute and chronic stress exposure warrants further investigation, because couples with an unfulfilled wish for a child face

a continuing confrontation with frustrating thoughts and feelings which makes coping very difficult and may finally lead to problems like alexithymia, i.e., difficulty in communicating emotions and somatic complaints as well.⁵

Therefore, the article to be commented is highly recommended to readers because psychological aspects of male infertility deserve more consideration as it is usually the case.

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